

California Sea Urchin Fishery Report: 2003 Wrap-Up

California Department of Fish and Game

Spring 2004

Preliminary 2003 catch and value statistics for the California sea urchin fishery show a continued 'bear market' trend with the lowest landings on record since 1975. Northern California barely surpassed 1985, the year considered the onset of that fishery (**Tables 1A-1B, Figure 1**). The cause of this decline, at least in recent years, is mostly market driven. While northern California catches dropped by over 50%, CPUE as catch per receipt (diver) was virtually unchanged in Mendocino county ports and only 16% down in Bodega Bay (**Table 1A**).

A major contributing factor to California's declining catches is the dramatic slide in U.S. sea urchin exports during the past decade. In 1993, \$110 million worth of sea urchins were exported to Japan from the states. By 2003, the value had declined to \$50 million (about \$36 million when adjusted for inflation compared to 1993 values) (**Tables 2A and 2B**). One bright note has been the increased domestic market for California sea urchin during the past 5 years.

Our two sea urchin scientific aids, Monica Sandoval in Fort Bragg, and Kathryn Johnson in Los Alamitos (southern California), are splitting a full-time position between them, with Monica arriving last August after a long period with no coverage in the north.

Market sampling, logbook entry and assisting in the production of reports like this one are their primary tasks. Together they measured over 18,000 urchins during their limited time in 2003. Undersized urchins, that is between 1.5 inches test diameter and legal size, accounted for 1.3% of the sampled catch in southern California and 0.5% in northern California. In northern California, almost 3 in 10 red urchins fell in the 90-94 mm range. Four years earlier (1999), almost 40% of the landed urchins were smaller than this, indicating the possibility of growth of that cohort to this larger size (**Figs 4A and 4B, Table 3**).

Catch by area is presented for southern (**Table 6A**) and northern (**Table 6B**) California. The northern Channel Islands accounted for almost 5 million of the 7.6 million pound southern California catch, mirroring the catch distribution of 1999. In northern California, catch from logbooks was distributed into 10 minutes of latitude along the coast. Two of these areas, the Point Arena and Albion to Mendocino area, equivalent to approximately 20 miles of coastline, accounted for about 50% of the catch.

As reported in last fall's sea urchin report, last summer HSU contract divers teamed up with Department divers to complete a total of 85, 30 m x 2 m

transects at Point Arena, Van Damme and Point Cabrillo Marine Reserve, all in Mendocino county. These sites serve a dual purpose, being used for abalone and sea urchin assessments, with abalone funds paying for the HSU contract divers. So a tip of the hat to abalone punch card purchasers from the urchin industry is in order! Van Damme had 1.4 red urchins per square meter, Point Arena had 0.76, and Point Cabrillo 6.0 (**Fig 7**). Point Cabrillo has been consistent since it was first surveyed in 1988 (it has been a reserve since 1975). Van Damme shallow water urchins (<30 feet) have declined in numbers, while deep water urchins have increased since the 1990 survey (though fewer transects were surveyed in 1990). This was the first year for the Point Arena survey, though the area was extensively surveyed in the early 1970s by the Department as part of an environmental impact report for the then proposed PG and E nuclear power plant that never got built.

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Table 1A.

CALIFORNIA SEA URCHIN LANDINGS BY PORT AND YEAR, 1998 - 2003									
	2003*			2002			2001		
PORT AREA	RECEIPTS	POUNDS	LBS/RCPT	RECEIPTS	POUNDS	LBS/RCPT	RECEIPTS	POUNDS	LBS/RCPT
SANTA BARBARA	3,457	3,576,938	1,035	3,293	3,121,904	948	2,548	2,182,496	857
OXNARD-VENTURA	2,438	1,978,641	812	1,889	1,612,241	853	1,665	1,352,795	812
LOS ANGELES	1,378	648,258	470	3,101	2,544,997	821	4,471	4,499,933	1,006
ORANGE COUNTY	698	555,399	796	251	124,384	496	253	136,317	539
SAN DIEGO	1,995	832,955	418	2,085	1,018,383	488	1,743	788,848	453
OTHR SC	37	33,703	911	85	89,424	1,052	28	25,022	894
TOTAL SOUTH	10,003	7,625,894	762	10,704	8,511,333	795	10,708	8,985,411	839
FORT BRAGG	1,040	830,278	798	2,744	2,171,880	792	2,805	2,195,651	783
ALBION	349	276,658	793	954	840,383	881	853	643,313	754
POINT ARENA	718	891,118	1,241	1,107	1,416,367	1,279	808	815,947	1,010
BODEGA BAY	110	118,883	1,081	738	945,067	1,281	403	428,570	1,063
HALFMOON BAY	0	0	--	3	1,330	443	22	8,949	407
OTHR NC	23	27890	1,213	32	47,639	1,489	44	37,912	862
TOTAL NORTH	2,240	2,144,827	958	5,578	5,422,666	972	4,935	4,130,342	837
STATE	12,243	9,770,721	798	16,282	13,933,999	856	15,643	13,115,753	838

Table 1B.

	2000			1999			1998		
PORT AREA	RECEIPTS	POUNDS	LBS/RCPT	RECEIPTS	POUNDS	LBS/RCPT	RECEIPTS	POUNDS	LBS/RCPT
SANTA BARBARA	2,929	2,327,931	795	5,188	4,544,055	876	4,019	3,257,297	810
OXNARD-VENTURA	2,725	2,358,294	865	3,257	3,115,432	957	2,441	2,387,468	978
LOS ANGELES	4,491	4,886,887	1,088	3,048	2,723,982	894	1,261	1,043,774	828
ORANGE COUNTY	235	112,449	479	53	17,071	322	52	16,509	317
SAN DIEGO	1,535	645,024	420	1,592	582,124	366	1,420	447,877	315
OTHR SC	67	51,610	770	31	15,290	493	3	3,880	1,293
TOTAL SOUTH	11,982	10,382,195	866	13,169	10,997,954	835	9,196	7,156,805	778
FORT BRAGG	2,816	2,130,609	757	2,154	1,467,860	681	2,540	1,633,472	643
ALBION	1,082	854,839	790	659	430,504	653	686	432,562	631
POINT ARENA	995	1,077,545	1,083	846	755,086	893	829	759,866	917
BODEGA BAY	538	670,470	1,246	438	465,382	1,063	473	511,856	1,082
HALFMOON BAY	24	8,989	375	43	14,738	343	37	12,619	341
OTHR NC	57	26,006	456	47	51,117	1,088	36	46,193	1,283
TOTAL NORTH	5,512	4,768,458	865	4,187	3,184,687	761	4,601	3,396,568	738
STATE	17,494	15,150,653	866	17,356	14,182,641	817	13,797	10,553,373	765

Source: CDFG –CMaster Compiled: March 2004

Figure 1.

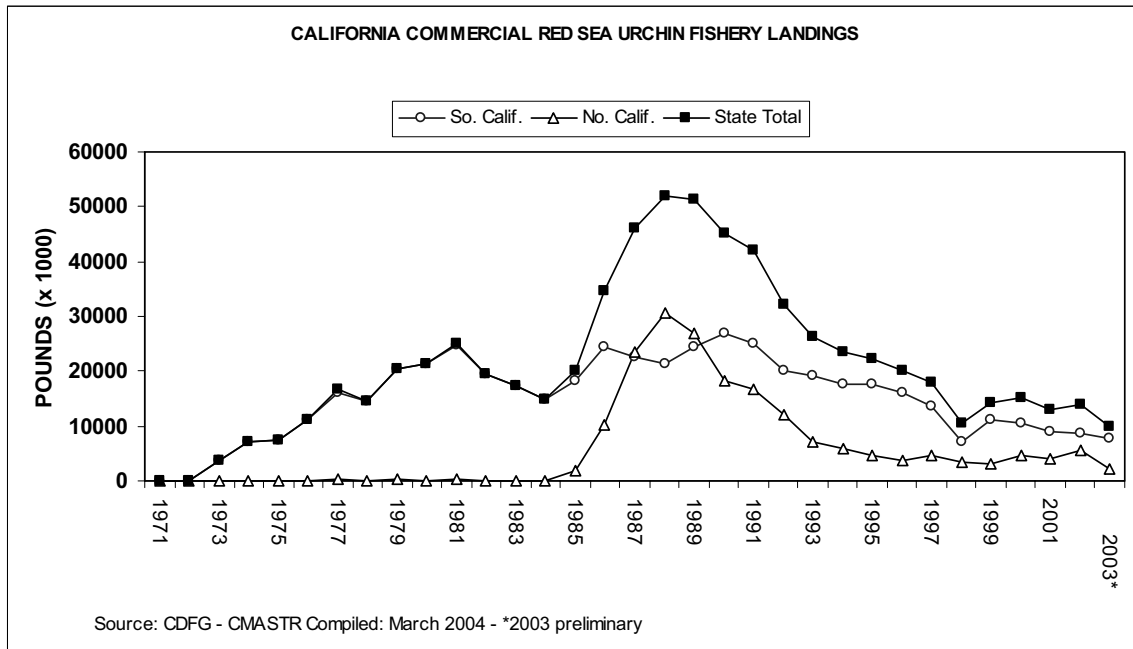


Figure 2.

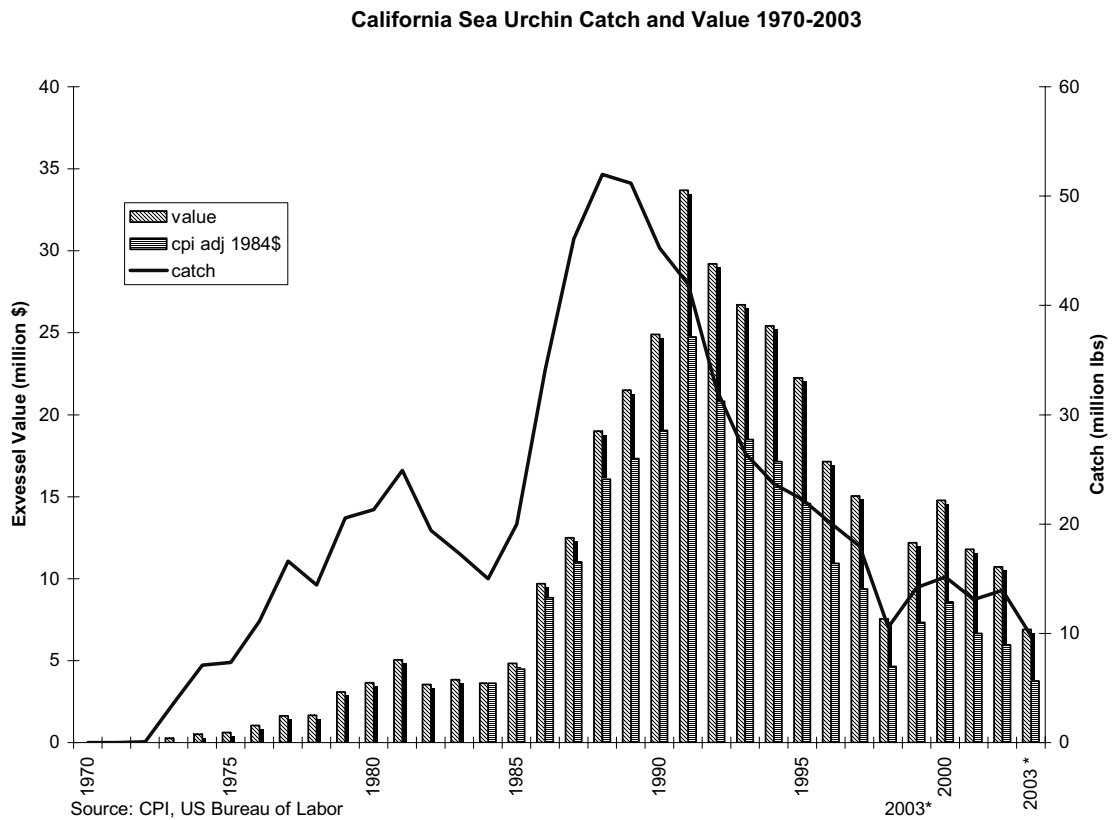


Figure 2A.

U. S. Sea Urchin Exports, 2002 and 2003					
<i>Source: NMFS Fisheries Statistics and Economics Division</i>					
Condition	Country	2002 Pounds	2002 Value	2003 Pounds	2003 Value
Live/Fresh	CANADA	304,079	\$508,620	42,189	\$101,329
Live/Fresh	CHINA	0	\$0	16,561	\$33,051
Live/Fresh	GERMANY	0	\$0	2,499	\$6,750
Live/Fresh	HONG KONG	0	\$0	17,365	\$77,026
Live/Fresh	ITALY	0	\$0	1,318	\$2,629
Live/Fresh	JAPAN	2,605,108	\$9,890,594	1,177,264	\$7,946,249
Live/Fresh	MEXICO	0	\$0	2,246	\$27,527
Live/Fresh	SOUTH KOREA	3,980	\$28,023	9,517	\$18,996
Live/Fresh	TAIWAN	0	\$0	32,976	\$68,966
Live/Fresh	UNITED KINGDOM	0	\$0	1,893	\$4,860
	SUBTOTAL	2,913,168	\$10,427,237	1,303,829	\$8,287,383
Roe/Fresh	DOMINICAN REPUBLIC	0	\$0	1,609	\$16,500
Roe/Fresh	GERMANY	0	\$0	536	\$12,214
Roe/Fresh	HONG KONG	444,168	\$6,316,442	372,621	\$5,565,834
Roe/Fresh	ISRAEL	0	\$0	562	\$18,930
Roe/Fresh	ITALY	13,742	\$186,873	0	\$0
Roe/Fresh	JAPAN	2,026,812	\$37,186,342	1,817,925	\$35,788,570
Roe/Fresh	MALAYSIA	0	\$0	273	\$6,901
Roe/Fresh	MEXICO	465	\$6,316	0	\$0
Roe/Fresh	NETHERLANDS	0	\$0	1,214	\$13,024
Roe/Fresh	SOUTH KOREA	478	\$11,091	0	\$0
Roe/Fresh	SPAIN	1,316	\$19,691	483	\$8,333
Roe/Fresh	TAIWAN	0	\$0	19,911	\$392,573
	SUBTOTAL	2,486,980	\$43,726,755	2,215,135	\$41,822,879
	Grand Total	5,400,148	\$54,153,992	3,518,964	\$50,110,262

Data as of January 2004

Figure 2B.

U. S. Sea Urchin Exports, 1992 and 1993					
<i>Source: NMFS Fisheries Statistics and Economics Division</i>					
Condition	Country	1992 Pounds	1992 Value	1993 Pounds	1993 Value
Live/Fresh	BELGIUM	0	\$0	236	\$4,747
Live/Fresh	CANADA	942,880	\$673,566	1,512,923	\$1,045,808
Live/Fresh	GERMANY	0	\$0	454	\$3,894
Live/Fresh	JAPAN	5,433,226	\$10,917,642	5,020,630	\$10,882,716
Live/Fresh	MEXICO	992	\$3,225	714	\$6,516
Live/Fresh	SOUTH KOREA	3,297	\$25,000	0	\$0
Live/Fresh	UNITED KINGDOM	126	\$2,677	8,362	\$118,292
	SUBTOTAL	6,380,520	\$11,622,110	6,543,319	\$12,061,973
Roe/Fresh	GERMANY	0	\$0	423	\$3,932
Roe/Fresh	JAPAN	7,507,441	\$65,428,773	8,869,910	\$97,541,372
Roe/Fresh	MEXICO	628	\$4,950	441	\$4,010
Roe/Fresh	NETHERLANDS	3,026	\$25,712	0	\$0
Roe/Fresh	SOUTH KOREA	115	\$2,700	8,986	\$48,317
Roe/Fresh	TAIWAN	0	\$0	1,300	\$22,390
Roe/Fresh	UNITED KINGDOM	0	\$0	1,534	\$23,898
	SUBTOTAL	7,511,210	\$65,462,135	8,882,594	\$97,643,919
	Grand Total	13,891,730	\$77,084,245	15,425,913	\$109,705,892

Data as of January 2004

Figure 3.

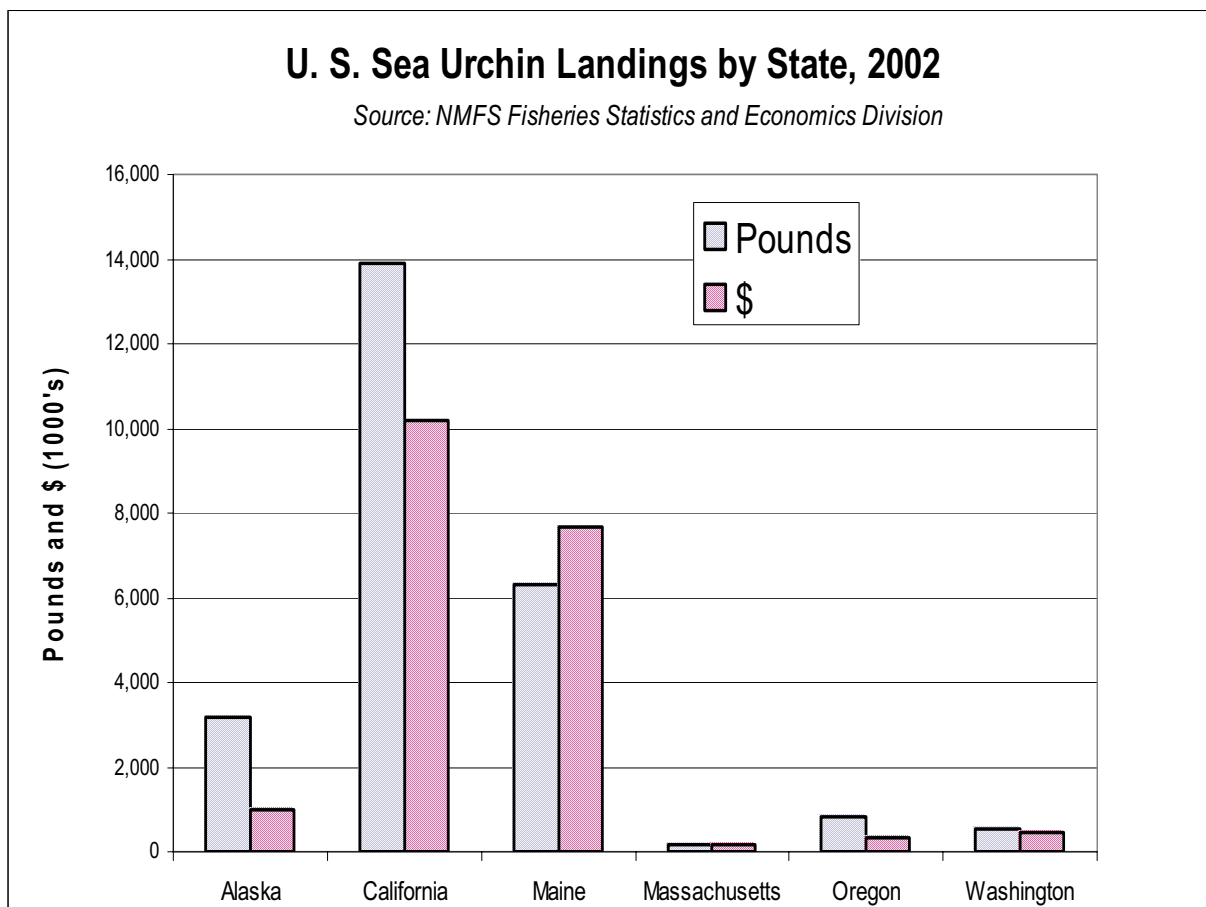


Figure 4A.

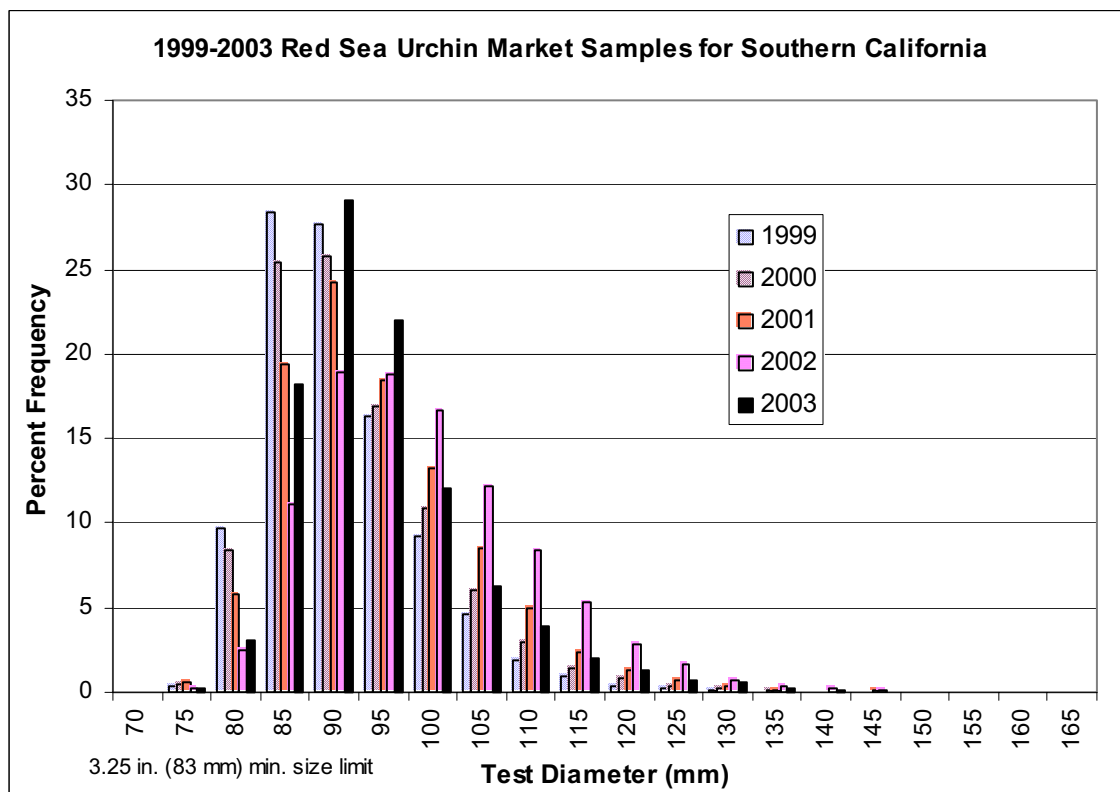


Figure 4B.

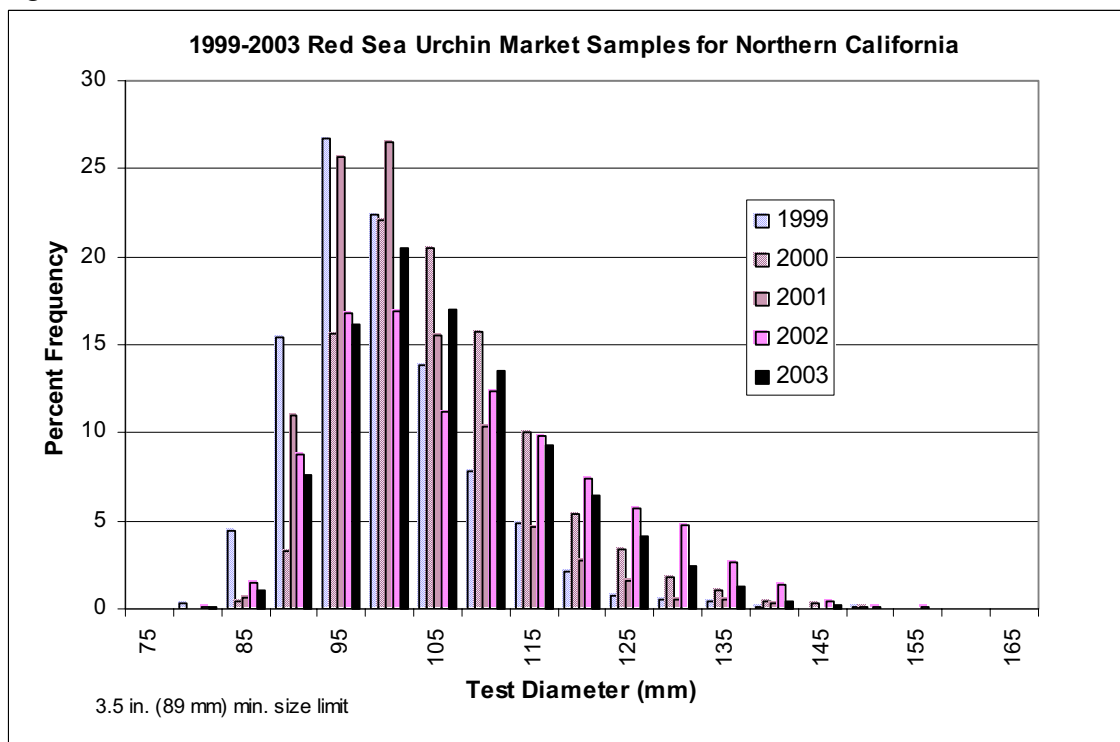


Table 3.

Market Sample Statistics - Southern California					Northern California			
Year	Sample Size	Mean	SD	% Shorts	Sample Size	Mean	SD	% Shorts
1996	38,299	96	11.4	4.3	6,709	105	11.0	1.0
1997	30,619	99	11.2	1.5	6,323	104	9.0	0.6
1998	12,544	103	13.6	1.0	3,731	105	9.9	0.4
1999	9,723	93	7.8	3.5	2,277	102	9.1	3.3
2000	7,460	94	9.0	2.9	5,738	108	10.0	0.2
2001	6,716	96	9.6	2.5	2,239	103	8.7	0.1
2002	9,135	101	10.9	1.3	3,525	109	13.2	0.9
2003	13,872	96	9.3	1.3	4,669	108	11.0	0.5

Source: Market Sample Data Compiled: March 2004

Figure 5.

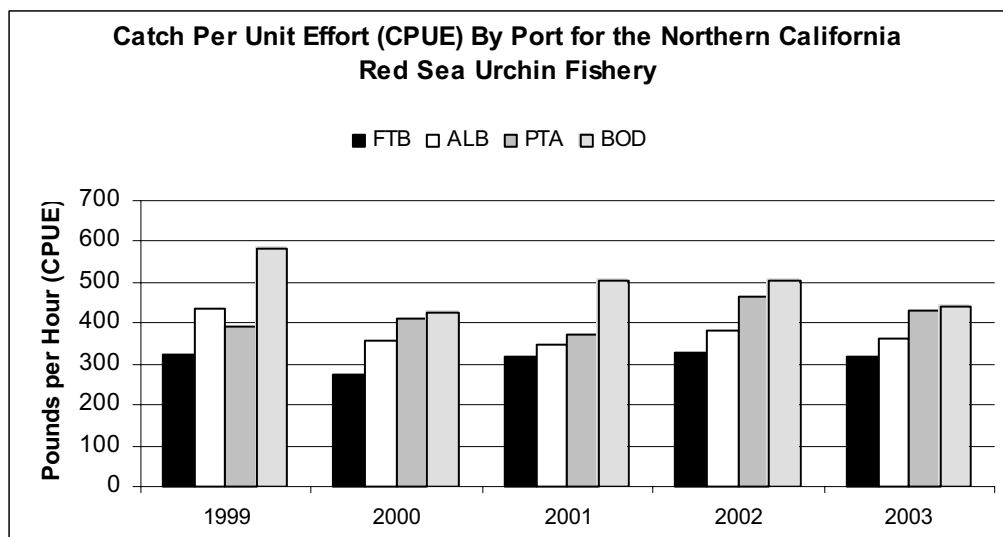


Table 4.

CPUE Statistics - Northern California (Pounds per Hour)						
	1999	2000	2001	2002	2003	% change 02-03
Fort Bragg	322	276	320	329	320	-2.8
Albion	436	258	348	381	365	5.8
Pt. Arena	392	411	371	467	433	2.7
Bodega Bay	581	427	503	503	439	-7.2

Source: Log Book Data Compiled: March 2004

Figure 6A.

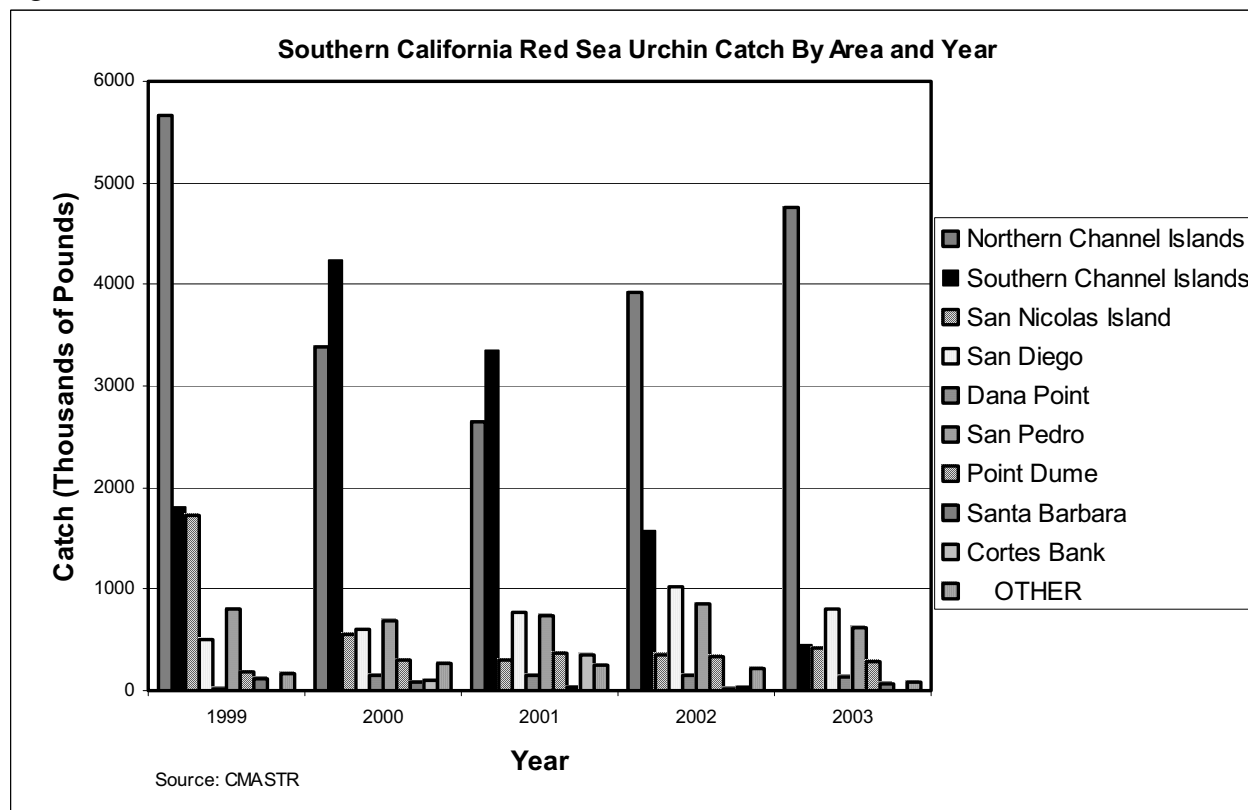
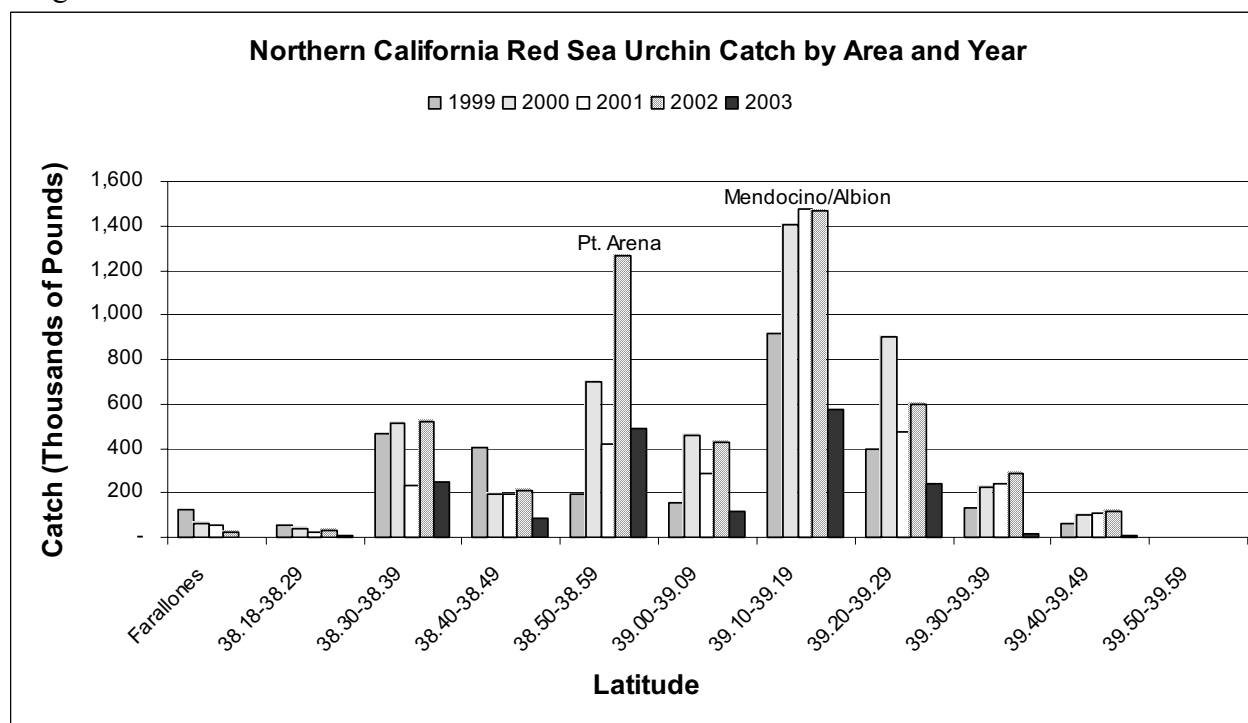


Figure 6B.



Source: CMASTR and Log Books Compiled: March 2004

Figure 7. Northern California Sea Urchin Survey, Size by Density

